

Notice of Allowability

Application No.

10/653,650

Examiner

Paul Dinh

Applicant(s)

MCGUFFIN ET AL.

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment + remarks filed on 6/20/05.
2. ☒ The allowed claim(s) is/are 18-22 and 24-42.
3. ☒ The drawings filed on 02 September 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Paul Dinh

OFFICE ACTION

This is a response to the amendment + remarks filed on 6/20/05.

EXAMINER'S AMENDMENT

(To bring the application into a condition for allowance)

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

In the claims

In claim 33, line 5; replace "the switching capacitance power characterization" with - - the switching capacitance characterization - -

(The change is implemented in order to provide consistency with a switching capacitance characterization on line 2 and the switching capacitance characterization on line 10)

Reasons for Allowance

The following is an examiner's statement of reasons for allowance:

Claims 18-22 and 24-42 are allowed because the prior art does not teach or suggest a power estimation method/system having combinations of all means/steps in the claims including particularly the following limitations:

(In claim 18) "means for determining switching power related parameters by evaluating predetermined characterizations that functionally relate a first set of circuit design characteristics as a function of switching power related parameters the means for determining switching power related parameters comprising means for determining crossover current over a plurality of channel connected regions by evaluating predetermined crossover equations with respective crossover current parameters for a given channel connected region over a plurality of connected regions, and summing the determined crossover currents to generate a total crossover current".

(In claim 21) “computing at least one leakage power related parameter based on a second set of circuit design characteristics and a predetermined characterization of leakage power related parameters as a function of the second set of circuit design characteristics, the computing at least one leakage power related parameter comprising determining gate tunneling leakage by adding a sum of transistor areas of p-type devices multiplied by a predetermined p-type leakage coefficient to a sum of transistor gate areas of n-type devices multiplied by a predetermined n-type leakage coefficient, and determining source-to-drain leakage by adding a sum of transistor gate areas of high voltage threshold (HVT)-type devices multiplied by a predetermined HVT-type leakage coefficient to a sum of transistor gate areas of low voltage threshold (LVT)-type devices multiplied by a predetermined LVT-type leakage coefficient”.

(In claim 30) “means for determining leakage power related parameters by evaluating predetermined characterizations that functionally relate a second set of circuit design characteristics as a function of leakage power related parameters, the means for determining leakage power determines leakage currents for a plurality of transistor devices by multiplying predetermined leakage coefficients associated with a given transistor type by the sums of transistor gate areas associated with the given type for a plurality of transistor types, and summing the determined leakage currents to generate a total leakage current”.

(In claim 33)

“receiving a plurality of circuit design characteristics associated with a given instance of the circuit design;

computing total switching capacitance based on node capacitance of the given instance of the circuit design and the switching capacitance characterization;

computing total crossover current based on crossover current parameters of the given instance of the circuit design and the crossover current characterization;

computing total leakage current based on transistor gate area of the given instance of the circuit design and the leakage current characterization; and

determining total power of the given instance of the circuit design based on the computed total switching capacitance, total crossover current and total leakage current”

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance".

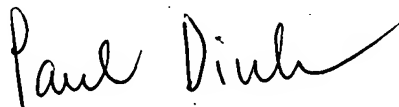
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Dinh whose telephone number is 571-272-1890. The examiner can normally be reached on Monday to Friday from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Smith can be reached on 571-272-1907. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Paul Dinh
Patent Examiner

A handwritten signature in black ink that reads "Paul Dinh". The signature is written in a cursive, flowing style with a long horizontal stroke at the end.